

In the Claims:

1. (Currently Amended) A high pressure rare gas short arc discharge lamp which includes a discharge space surrounded by an arc tube and in which, within the arc tube, a first electrode is positioned at a distance from a second opposed electrode, comprising,

at least one conductive component having a tip projecting into the discharge space and having an electrical potential which is identical to an electrical potential applied to the first electrode,

wherein the first electrode is connected to a high voltage pulse generator for receiving a high voltage therefrom, and

wherein the tip is at a distance from the second electrode which is greater than the distance between the first and the second electrode.

2. (Original) Short arc discharge lamp as claimed in claim 1, wherein the tip of the conductive component is in contact with the inside wall of the arc tube.

3. (Original) Short arc discharge lamp as claimed in claim 1, wherein the tip of the conductive component is in close proximity to an inside wall of the arc tube without contacting the inside wall.

4. (Original) Short arc discharge lamp as claimed in claim 1, wherein the conductive component is located outside the area which is at an effective light utilization angle extending from the arc middle rotating around the electrode axis.

5. (Original) Short arc discharge lamp as claimed in claim 1, wherein the conductive component is connected to an upholding part of the first electrode.

6. (Original) Short arc discharge lamp as claimed in claim 1, wherein the conductive component is connected to the first electrode.

7. (Original) Short arc discharge lamp as claimed in claim 1, wherein the conductive component is connected to a molybdenum foil which is electrically connected to an upholding part of the first electrode.

8. (Original) Short arc discharge lamp as claimed in claim 1, wherein the conductive component is connected to an outer lead which is connected electrically conductively to the first electrode.

9. (Original) Short arc discharge lamp as claimed in claim 1, wherein the conductive component has a smaller diameter than a diameter of first or the second electrodes.

10. (Original) Short arc discharge lamp as claimed in claim 1, wherein the tip of the conductive component has a tip angle which is smaller than an angle of a cone-like area of a tip of the first electrode.

11. (Original) Short arc discharge lamp as claimed in claim 1, wherein the conductive component is composed of at least one of the metals Mo, W, Ta, and Zr and at least the area of the tip of the conductive component contains material selected from the group consisting of at least one of the metals Th, La, Ce, Hf, and Ba.

12. (Currently Amended) Light source device comprising
a concave reflector having a neck portion; and
a high pressure rare gas short arc discharge lamp which includes a discharge space surrounded by an arc tube and in which, within the arc tube, a first electrode is positioned at a distance from a second opposed electrode, at least one conductive component having a tip projecting into the discharge space and having an electrical potential which is identical to an electrical potential applied to the first electrode, the tip being at a distance from the second electrode which is greater than the distance between the first and the second electrode,
wherein the first electrode is connected to a high voltage pulse generator for receiving a high voltage therefrom, and
wherein a hermetically sealed portion of the short arc discharge lamp is located in the neck portion of the concave reflector.